

Title (en)  
Reading method, responder and interrogator

Title (de)  
Leseverfahren, Responder und Lesegerät

Title (fr)  
Procédé de lecture, répondeur et interrogateur

Publication  
**EP 1655852 B1 20071121 (EN)**

Application  
**EP 03817994 A 20030811**

Priority  
JP 0310211 W 20030811

Abstract (en)  
[origin: EP1655852A1] The conventional technique in which transmission and reception of the identification number to/from an interrogator is repeated on one bit unit has problems that it requires a complicated command, a large number of operation stages, a complicated flip-flop, switching control between transmission and reception, control of a memory address counter, and a complicated logical circuit such as a data comparison circuit, which increases the chip size. The present invention provides an interrogator for reading a recognition number from a responder by radio and the responder. When a clock pulse is modulated on a high-frequency carrier and transmitted to the responder from the antenna of the interrogator, there are a first case when the clock pulse interval is short and a second case when the clock pulse interval is long. By combining the clock pulse of the first case and the clock pulse of the second case so as to control the read of the recognition number from the interrogator, it is possible to realize reduction of the semiconductor chip size of the responder and suppress the cost of the semiconductor chip.

IPC 8 full level  
**G06K 7/00** (2006.01); **G06K 19/07** (2006.01); **H04B 1/59** (2006.01)

CPC (source: EP KR US)  
**G06K 7/0008** (2013.01 - EP US); **G06K 7/10039** (2013.01 - EP US); **G06K 17/00** (2013.01 - KR); **G06K 19/0723** (2013.01 - EP US); **H04B 1/59** (2013.01 - KR)

Designated contracting state (EPC)  
DE FR GB IT NL

DOCDB simple family (publication)  
**EP 1655852 A1 20060510; EP 1655852 A4 20061018; EP 1655852 B1 20071121**; AU 2003254936 A1 20050225; AU 2003254936 B2 20090521; CA 2530711 A1 20050217; CN 100407586 C 20080730; CN 1788424 A 20060614; DE 60317723 D1 20080103; DE 60317723 T2 20080925; DE 60327121 D1 20090520; DE 60336777 D1 20110526; EP 1890248 A1 20080220; EP 1890248 B1 20090408; EP 2068266 A2 20090610; EP 2068266 A3 20090812; EP 2068266 B1 20110413; JP 4196992 B2 20081217; JP WO2005015763 A1 20061012; KR 100935968 B1 20100108; KR 20060038400 A 20060503; NO 20056247 L 20060310; US 2006158315 A1 20060720; US 2009146794 A1 20090611; US 7508296 B2 20090324; US 8174368 B2 20120508; WO 2005015763 A1 20050217

DOCDB simple family (application)  
**EP 03817994 A 20030811**; AU 2003254936 A 20030811; CA 2530711 A 20030811; CN 03826707 A 20030811; DE 60317723 T 20030811; DE 60327121 T 20030811; DE 60336777 T 20030811; EP 07020161 A 20030811; EP 09002055 A 20030811; JP 0310211 W 20030811; JP 2005507591 A 20030811; KR 20057025093 A 20030811; NO 20056247 A 20051230; US 37026309 A 20090212; US 56246405 A 20051227